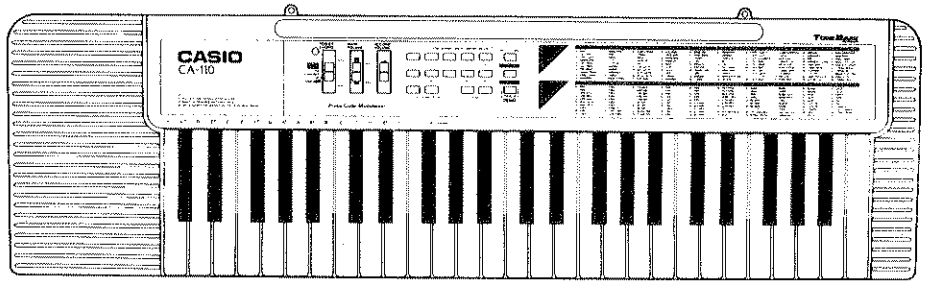
MASTER

TONE BANK KEYBOARD CA-110

ELECTRONIC MUSICAL INSTRUMENT
INSTRUMENTO MUSICAL ELECTRONICO

OPERATION MANUAL 2

MANUAL DE OPERACION ... 20



CASIO

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ELECTRONIC MUSICAL INSTRUMENT

Introduction

Your new CA-110 keyboard is a state-of-the-art musical instrument which incorporates the latest electronics technology to make its operation as easy as possible. Exceptional sound quality backed up by a host of sophisticated features and functions makes this keyboard a joy to play for everyone.

In order to enjoy the features and functions of this unit to their fullest, be sure to carefully read this manual and follow the instructions contained herein.

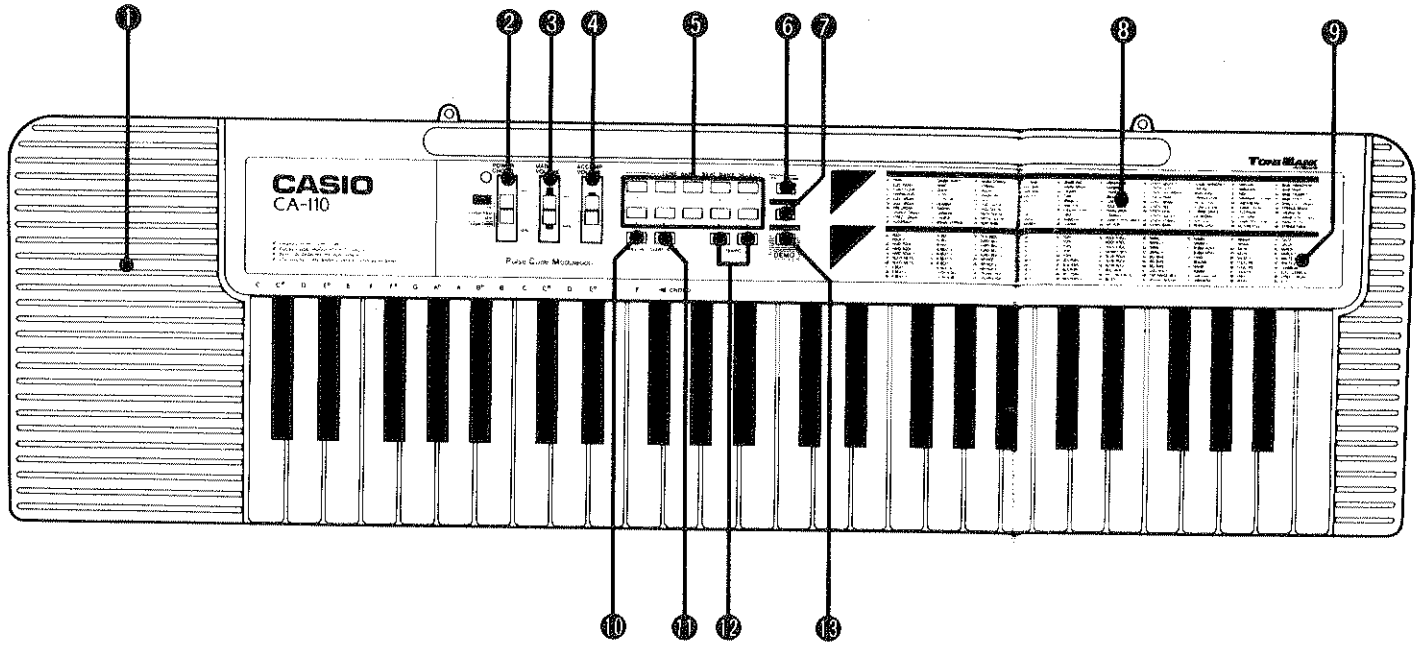
Precaution

The batteries that come with the unit are test batteries. If battery power drops below a certain level, the quality of the tone produced deteriorates, a totally different tone may sound, or the demo tune or auto rhythm may become abnormal. Should any of these symptoms occur, replace batteries as soon as possible.

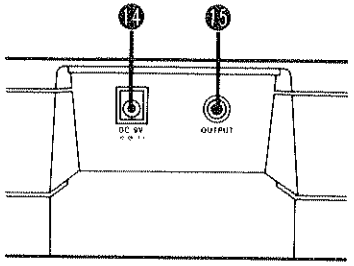
Contents

1. **General Guide** 4
2. **Power Supply** 6
3. **General Operation** 7
4. **Preset Tones**
   - To select a preset tone 8
   - Keyboard split tones 9
   - POLY/TEXTURE button 9
5. **Auto-rhythms**
   - To select an auto-rhythm 10
   - To play an auto-rhythm 11
   - Using FILL-IN button 11
6. **Auto-accompaniment**
   - Accompaniment keyboard 12
   - Using auto-accompaniment 12
7. **Troubleshooting** 15
8. **Care of Your Keyboard** 16
9. **Specifications** 17

1 General Guide



(Rear panel)



⓮ AC adaptor jack
⓯ Output jack

❶ Built-in speaker
❷ POWER/CHORD switch
❸ MAIN VOLUME slider
❹ ACCOMP VOLUME slider
❺ SELECT buttons
❻ TONE BANK button (POLY/TEXTURE button)
❼ BEAT BANK button
❽ 100 SOUND TONE BANK list
❾ 100 PATTERN BEAT BANK list
❿ FILL-IN button
⓫ START/STOP button
⓬ TEMPO control buttons
⓭ DEMO button

Demonstration Tune

This unit features a preset demonstration tune which has been carefully programmed to showcase all the features and benefits of this unit. Simply press the DEMO button ⓭, and listen to the CA-110 plays itself!

- *The demonstration tune is played in an endless loop. Press the DEMO button again to stop the tune.*
- *The keyboard is inoperable while playing the demonstration tune.*

2 Power Supply

<DC Power>

• Dry batteries

This unit can be powered by six AA size (SUM-3/R6P or AM-3/LR6) dry cell batteries. Weakened batteries will result in lower volume or poor tonal quality. The power indicator lamp will gradually lose its brightness when battery power weakens. At this time, change batteries or shift to one of the alternate power sources mentioned below.

Battery replacement

1) Open the battery compartment cover on the back of the unit and take out used batteries.
2) Load new batteries taking care that polarity is correct.

•It is advisable to replace all six batteries at the same time for longer battery life.
•Standard battery life is approximately 2 hours (SUM-3)/5 hours (AM-3)

PRECAUTIONS

Incorrectly using batteries can cause them to burst or leak, possibly damaging the interior of the unit. Note the following precautions:

*Be sure that the positive (+) and negative (−) poles of each battery are facing in the proper direction.
*Never mix batteries of different types.
*Never mix old batteries and new ones.
*Never leave dead batteries in battery compartment.
*Remove batteries if you do not plan to use the unit for long periods.
*Replace batteries at least once every 2 years, no matter how much the unit is used during that period.
*Never try to recharge the batteries supplied with the unit.
*Do not expose the batteries to direct heat, let them become shorted, or try to take them apart.
*Should a battery leak, clean out the battery compartment of the unit immediately, taking care to avoid letting the battery fluid come into direct contact with your skin.

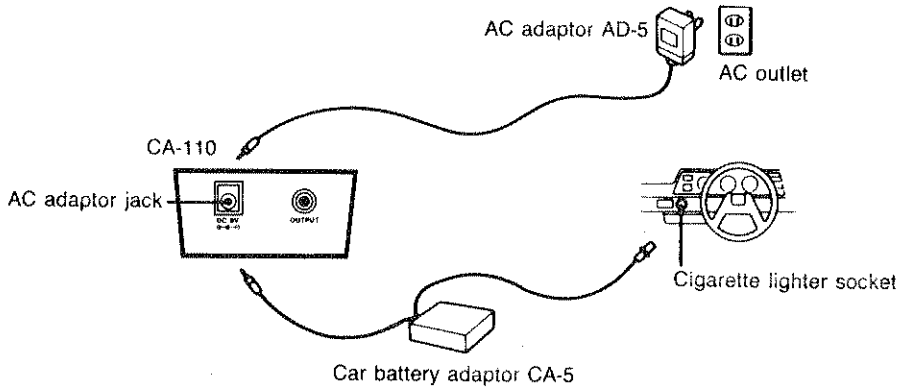
• Car battery

With the car battery adaptor (CA-5, optional), DC power is supplied from a car battery through the cigarette lighter socket.

*Car battery adaptor may not be available in some areas.

<AC Power>

An AC adaptor (AD-5, optional) is required when using household current. Use only a genuine CASIO adaptor with the same voltage rating (100, 117, 220 or 240) as the power supply in your area to prevent component damage. Plug the AC adaptor into the AC outlet and the cord into the unit. This will automatically cut off the battery power supply.



•Use only genuine CASIO adaptors to avoid risk of damage.
•The adaptor may become warm when left connected to an outlet. This is normal, but the adaptor should be disconnected when not in use.

3 General Operation

**Refer to the general guide found on page 4-5 for exact locations of this keyboard controls and connections.*

①Set the POWER/CHORD switch to ON.
②Adjust the volume level.
③Select one of 100 preset tones (see "Preset Tones", page 8).
④Now, start playing.

4 Preset Tones

*Refer to the general guide found on page 4-5 for exact locations of this keyboard controls and connections.

■To select a preset tone

There are 100 preset tones to choose from. Each tone has a 2-digit number. To select a preset tone, find its preset tone number in the 100 SOUND TONE BANK list on the keyboard's top panel, and enter the number using the SELECT button.

"PIANO" tone (No. 00) is selected automatically whenever you switch the power of the keyboard ON.

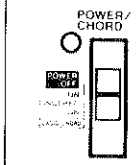
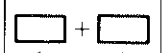
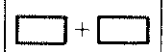
Example To select "**ELEC GUITAR**" (No. 25) after selecting "**VIBRAPHONE**" (No. 50).

①Set the **POWER/CHORD switch** to the ON position. At this time "PIANO" (No. 00) is selected automatically.

②Press **TONE BANK button**.

③Press **SELECT button "5"** and then **"0"** to select "VIBRAPHONE".

④Press **SELECT button "2"** and then **"5"** to select "ELEC GUITAR".

Step	Press	Selected tone
1		No. 00 PIANO
2		
3		No. 50 VIBRAPHONE
4		No. 25 ELEC GUITAR

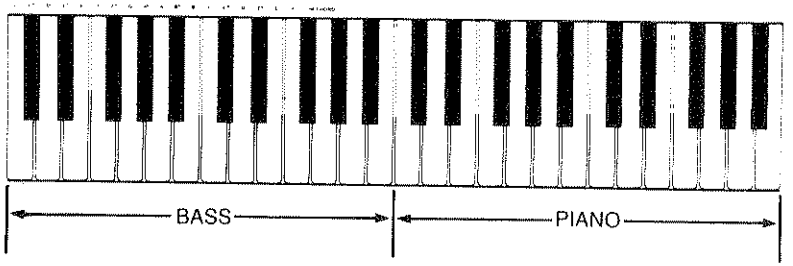
You can also change the selected tone by pressing only one SELECT button. Note the following:

Selected tone ⇨	Press ⇨	Newly selected tone
No. 50	0	No. 00
No. 00	2	No. 02
No. 02	5	No. 25

■Keyboard split tones

Some Tone Bank selection split the keyboard and assign two or four sounds to keyboard. Then, the sound produced depends on what position of the keyboard you play. For example, BASS/PIANO (No. 91) puts BASS on the left and PIANO on the right of the keyboard.

Example **"BASS/PIANO"** (No. 91)



■POLY/TEXTURE button

The TONE BANK button also functions as a POLY/TEXTURE button. Once you select a tone, each press of this button switches both the texture of the tone (between thin and thick), and the polyphony of the tone (between 4 and 8).

IMPORTANT

Some of the 100 tone available with this keyboard are designed for play at less than maximum volume. This means that a "MAX" volume setting may cause distortion of certain tones. Should this happen, use the VOLUME slider to make appropriate adjustment.

5 Auto-rhythms

**Refer to the general guide found on page 4-5 for exact locations of this keyboard controls and connections.*

■To select an auto-rhythm

There are 100 auto-rhythms to choose from. Each rhythm has a 2-digit number. To select an auto-rhythm, find its rhythm number in the 100 PATTERN BEAT BANK list on the keyboard's top panel, and enter the number using the SELECT button.

* *"ROCK 1" rhythm (No. 00) is selected automatically whenever you switch the power of the keyboard ON.*

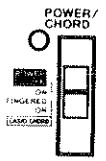
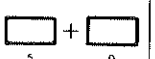
Example To select "**HIP HOP 1**" (No. 25) after selecting "**ROCK'N'ROLL 1**" (No. 50).

①Set the **POWER/CHORD switch** to the ON position. At this time "ROCK 1" (No. 00) is selected automatically.

②Press **BEAT BANK button**.

③Press **SELECT button "5"** and then **"0"** to select **"ROCK'N'ROLL 1"**.

④Press **SELECT button "2"** and then **"5"** to select "HIP HOP 1".

Step	Press	Selected rhythm
1		No. 00 ROCK 1
2		
3		No. 50 ROCK'N'ROLL 1
4		No. 25 HIP HOP 1

You can also change the selected rhythm by pressing only one SELECT button. Note the following:

Selected rhythm ⇨	Press ⇨	Newly selected rhythm
No. 50	0	No. 00
No. 00	2	No. 02
No. 02	5	No. 25

■To play an auto-rhythm

①After selecting an auto-rhythm, press START/STOP button to start the rhythm.
②Adjust the tempo using the TEMPO control buttons. Each press of ▲ speeds up the tempo, while pressing ▼ slows it down.
* *Tempo of the auto-rhythm can be adjusted between 40 and 256 beats per minute.*
③You can adjust the relative volume of the rhythm by using the ACCOMP VOLUME slider.
④Press START/STOP button again to stop auto-rhythm play.

■Using FILL-IN button

When FILL-IN button is pressed during auto-rhythm play, an appropriate fill-in pattern is inserted in the rhythm pattern. If the button is held down, the fill-in pattern is repeated until the end of the measure during which the button is released.

NOTE:

•When playing an auto-rhythm, the polyphony of each preset tone is limited as listed below;

Tone No. 00, 02, 04, 06, 11, 12, 13, 15, 16, 22, 24, 26, 46, 47, 48, 49, 50, 91, 94, 98	6-note polyphonic
Other tones	3-note polyphonic

**You can switch the polyphony of the tone between 3 and 6 using POLY/TEXTURE button when playing an auto-rhythm (see page 9).*

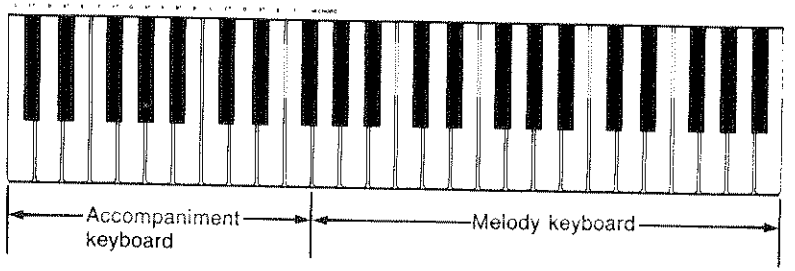
6 Auto-accompaniment

Refer to the general guide found on page 4-5 for exact locations of this keyboard controls and connections.

This unit features 100 accompaniment patterns that let you add full accompaniments to your performances automatically.
You can select from two types of auto-accompaniment — simplified fingering chord play (CASIO CHORD ON) or standard fingering (FINGERED).

■Accompaniment keyboard

If the POWER/CHORD switch is set to "CASIO CHORD ON" or "FINGERED", the lower 1.5 octave of the keyboard become accompaniment keyboard keys.



■Using auto-accompaniment

[1] Auto-accompaniment using the Casio Chord system

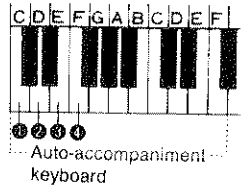
①Set the POWER/CHORD switch to "CASIO CHORD ON" position.
②Select one of the auto-rhythms (refer to "To select an auto-rhythm" on page 10).
③Play on the accompaniment keyboard keys according to the Casio Chord system (refer to "Casio Chord system" on page 13).
④Press START/STOP button to stop auto-accompaniment play.

Casio Chord system

The Casio Chord system has been developed so you can play the four main types of chords more easily. Playing of the chords is simplified as shown below:

- Pressing one of the accompaniment keyboard keys produces a major chord corresponding to that note.
- Simultaneously pressing any key to the right (two keys at the same time) results in a minor chord.
- Similarly, pressing one more key to the right (three keys in all) produces a seventh chord, and pressing the fourth key to the right (four keys in all) creates a minor seventh chord.

<Examples>
C (C major chord) — Press ❶.
Cm (C minor chord) — Press ❶, ❷ together.
C7 (C seventh chord) — Press ❶, ❷, ❸ together.
Cm7 (C minor seventh chord) — Press ❶, ❷, ❸, ❹ together.



Not only ❷, ❸, and ❹, but any black or white keys can be used as long as they are to the right of ❶.

[2] Auto-accompaniment play using standard chord fingering

①Set the POWER/CHORD switch to "FINGERED" position.
②Select one of the auto-rhythms (refer to "To select an auto-rhythm" on page 10).
③Play a chord on the accompaniment keyboard keys.
* *This unit is capable of recognizing the following chords; M, m, −5, +5, dim, sus4, 7, M7, m7, mM7, m7-5, 7sus4, 9, m9.*
④Press START/STOP button to stop auto-accompaniment play.

NOTES:

- You can adjust the relative volume of the auto-accompaniment by using the AC-COMP VOLUME slider.
- You can adjust the tempo of the auto-accompaniment by using the TEMPO control buttons.
- During auto-accompaniment performance, chord played on the accompaniment keyboard will continue to sound after releasing the keys.

- When playing an auto-accompaniment, the polyphony of each preset tone is limited as listed below;

Tone No. 00, 02, 04, 06, 11, 12, 13, 15, 16, 22, 24, 26, 46, 47, 48, 49, 50, 91, 94, 98	2-note polyphonic
Other tones	monophonic

**You can switch the polyphony of the tone between 1 and 2 using POLY/TEXTURE button when playing an auto-accompaniment (see page 9).*

7 Troubleshooting

**For any malfunction, always check battery condition first. (see page 6)*

Trouble	Possible Cause	Remedy
No sound, even if keys are pressed.	1. Main volume turned down. 2. Headphones connected.	1. Turn up main volume. 2. Disconnect headphones.
No rhythm. No accompaniment.	Main and accompaniment volume turned down.	Turn up main and accompaniment volume.
Occasional interference.	Refrigerators, washing machines and similar electric appliances.	Use outlet as far away as possible from appliance thought to be the cause.
No sound when connected to external amplifier.	1. Main volume turned down. 2. Defective connection cord.	1. Turn up main volume. 2. Replace connection cord.

8 Care of Your Keyboard

Avoid heat, humidity, and direct sunlight.
not overexpose the unit to direct sunlight, place it near a heater, or in any area
)ject to high temperature.

Avoid severe impacts and not drop.
/ere impacts can result in malfunction. When carrying or transportion the unit,
tect the keyboard and keys by packing with soft cloth.

Keep the unit free of liquids, dust, particles, etc.
not allow foreign matter to enter between the keys. Be especially careful of
tallic objects such as hairpins, sewing needles or coins. Also, do not allow the
t to get wet.

Never attempt to modify any part of the unit.
ur keyboard is a precision musical instrument made up of sophisticated elec-
nic parts. Any modification of, or tampering with internal components can cause
ible or malfunction.

Do not use lacquer thinner or similar chemicals for cleaning.
an the keyboard with a soft cloth dampened with a mild detergent solution and
eeze it until almost dry.

Remove batteries before extended storage.
teries left in the unit for long periods can leak and cause damage to electronic
uitry.

In case of malfunction ...
ck whether buttons and connections are set correctly as indicated in the
ibleshooting chart. If the unit still does not work properly, contact the original
iler or a nearby dealer. Never attempt to repair the unit yourself. This can result
erious damage of the components.

9 Specifications

- **Model:** CA-110
- **Number of keys:** 49 keys
- **Polyphony:** 8-note polyphonic (maximum)
- **Preset tones:** 100
- **Auto-rhythms:** 100
- **Auto-accompaniment function:** CASIO CHORD ON/FINGERED
- **Terminals:** Output jack [output impedance: 120Ω, output voltage: 2.5V(RMS) MAX], AC adaptor jack (DC 9V)
- **Built-in speaker:** 12 cm dia. (Output = 2.2W)
- **Power source:** 3-way AC/DC power sources;
  - **AC:** 100, 117, 220 or 240V (±10V), 50/60 Hz, with optional AD-5 AC adaptor.
  - **DC:** 6 AA size dry batteries (SUM-3/R6P or AM-3/LR6)
    Battery life: Approximately 2 hours (SUM-3/R6P)/
    5 hours (AM-3/LR6)
  - **Car battery:** Requires optional CA-5 car adaptor
- **Power consumption:** 7.7W
- **Dimensions:** 878(W) × 260(D) × 83(H) mm
  $34^{9}/_{16}'' \times 10^{1}/_{4}'' \times 3^{1}/_{4}''$
- **Weight:** 3.5 kg (7.7 lbs) including batteries
- **Standard accessories:** 6 AA size batteries, score stand

**Designs and specifications are subject to change without notice.*

GUIDELINES LAID DOWN BY FCC RULES FOR USE OF THE UNIT IN THE U.S.A. (not applicable to other areas).

This equipment generates and uses radio frequency energy and if not installed and used properly, that is, in strict accordance with the manufacturer's instructions, may cause interference to radio and television reception. It has been type tested and found to comply with the limits for a Class B computing device in accordance with the specifications in Subpart J of Part 15 of FCC Rules, which are designed to provide reasonable protection against such interference in a residential installation. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

..... reorient the receiving antenna
..... relocate the equipment with respect to the receiver
..... move the equipment away from the receiver
..... plug the equipment into a different outlet so that equipment and receiver are on different branch circuits.

If necessary, the user should consult the dealer or an experienced radio/television technician for additional suggestions. The user may find the following booklet prepared by the Federal Communications Commission helpful: "How to Identify and Resolve Radio-TV Interference Problems". This booklet is available from the US Government Printing Office, Washington, D.C., 20402, Stock No. 004-000-00345-4.